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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,577	08/13/2001	Graham Bank	085874-0364	5427

22428 7590 04/23/2003

FOLEY AND LARDNER  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

HARVEY, DIONNE

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/927,577

Applicant(s)

Bank

Examiner  
Dionne Harvey

Art Unit  
2643



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 9-12, 15, and 18 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 7, 8, 13, 14, 16, 17, and 19 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 AND 6 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3,6,10-12,15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Mochida (US 3,509,290).

Regarding claim 1, in figure 1A Mochida teaches an acoustic device relying on radiation/bending wave action via at least two exciters 2,3 mounted to a panel 1 so as to cause significant surface vibration over the panel area favorable to desired acoustic output, each exciter being adapted for connection to respective independent sources of drive signals (in column 2, lines 10-18, Mochida teaches that drivers 3 are supplied by treble-tone signals while driver 2 is supplied with bass-tone signals. The treble-tone and bass-tone signals are separate and therefore independent sources for the respective drivers, as claimed.

Regarding Claim 2, since different frequencies produce different sound pressure levels, Mochida teaches drivers operating at bass and treble frequencies, and therefore teaches that the maximum sound pressure level for the treble driver is different than the maximum sound pressure level of the bass driver.

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Regarding claims 3 and 6, Since the maximum frequency bandwidth of the treble driver is defined as all frequencies above 261.63 hz, and the maximum frequency bandwidth of the bass driver is defined as all frequencies below 261.63 hz, Mochida therefore teaches that the maximum frequency bandwidth of one exciter is greater than the other exciter.

Regarding claim 10, in figure 2, Mochida teaches an acoustic device relying on radiation/bending wave action via a plural number of exciters 2,3 mounted to a panel 1 so as to cause significant surface vibration over the panel area favorable to desired acoustic output, each exciter being adapted for connection to the same plural number of independent sources of drive signals. In column 2, lines 10-18, Mochida teaches that driver 3 is supplied by treble-tone signals while driver 2 is supplied with bass-tone signals. The treble-tone and bass-tone signals are separate and therefore independent sources for the respective drivers, as claimed.

Regarding Claim 11, since different frequencies produce different sound pressure levels, Mochida teaches drivers operating at bass and treble frequencies, and therefore teaches that the maximum sound pressure level for the treble driver is different than the maximum sound pressure level of the bass driver.

Regarding claims 12 and 15, Since the maximum frequency bandwidth of the treble driver is defined as all frequencies above 261.63 hz, and the maximum frequency bandwidth of the bass driver is defined as all frequencies below 261.63 hz, Mochida therefore teaches that the maximum frequency bandwidth of one exciter is greater than the other exciter.

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Regarding claim 18, in figure 2, Mochida teaches a method of operating a loudspeaker, as inherently taught by the structure of the apparatus, comprising a panel relying on radiation/bending wave action and at least two exciters 2,3 mounted to a panel 1 so as to cause significant surface vibration over the panel area comprising driving each exciter by an independent sources of drive signals. In column 2, lines 10-18, Mochida teaches that driver 3 is supplied by treble-tone signals while driver 2 is supplied with bass-tone signals. The treble-tone and bass-tone signals are separate and therefore independent sources for the respective drivers, as claimed.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida (US 3,509,290) in view of Azima (US 6,215,881).

Regarding claim 9, Mochida does not specifically teach that the loudspeaker taught in the first two embodiments may be adapted for installation and operation in a ceiling tile.

In figure 3a, Azima teaches that flat panel speakers 2 may be adapted for installation and operation in a ceiling tile. It would have been obvious for one of ordinary skill in the art at the

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time of the invention to combine the teachings of Mochida and Azima, adapting the loudspeaker of Mochida for installation and operation as a ceiling tile, thereby overcoming the faults of existing technology which includes excessive sound intensity, directional effects and poorer intelligibility.

*Allowable Subject Matter*

3. Claims 4,5,7,8,13,14,16,17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm.

**Any responses to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC 20231

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**or faxed to:**

(703) 308-6306, for formal communications for entry

**Or:**

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

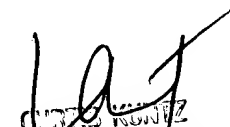
Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

April 10, 2003

  
CURTIS KUNTZ  
SUPERVISOR PATENT EXAMINER  
TECHNOLOGY CENTER 2600